

Antioxidant protection: interaction of vitamin E with other factors, by A.T.Diplock, Department of Biochemistry, Guy's Hospital Medical School, London SE1 9RT, U.K.

Vitamin E participates in a complex mechanism that protects living cells against oxygen metabolites. Oxygen metabolism is controlled inter alia by superoxide dismutase, catalase and glutathione peroxidase, thus limiting free radical initiation of peroxidative chain reactions in unsaturated phospholipids. Peroxidation is inhibited by vitamin E and the further metabolism of peroxides is catalysed initially by glutathione peroxidase.

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LIPID AUTOXIDATION AND ITS PREVENTION

General survey of mechanism of autoxidation and antioxidant theory. Antioxidants fall into two main classes: Preventive and Chain-Breaking. Survey of types and mechanism of action of commercial and biological preventive and chain-breaking antioxidants. Reactivities of tocopherols towards peroxy radicals. Is Vitamin E the only lipid soluble, chain-breaking antioxidant in the human body? Titration of chain-breaking antioxidants with peroxy radicals. Vitamin E and total chain-breaking antioxidant levels in tissue: blood plasma, red blood cell membranes, normal rat liver, cancerous rat liver.